

Components of an Ecosystem

The concept of the ecosystem was developed to describe the way groups of organisms are predictably found together in their physical environment. A community comprises all the organisms

within an ecosystem. Both physical (abiotic) and biotic factors affect the organisms in a community, influencing their distribution and their survival, growth, and reproduction.

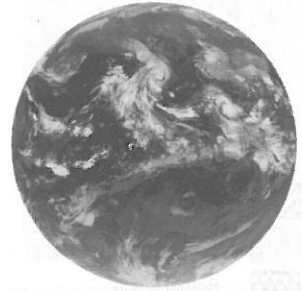
Physical Environment

Atmosphere

- Wind speed & direction
- Humidity
- Light intensity & quality
- Precipitation
- Air temperature

The Biosphere

The **biosphere**, which contains all the Earth's living organisms, amounts to a narrow belt around the Earth extending from the bottom of the oceans to the upper atmosphere. Broad scale life-zones or **biomes** are evident within the biosphere, characterised according to the predominant vegetation. Within these biomes, **ecosystems** form natural units comprising the non-living, physical environment (the soil, atmosphere, and water) and the **community** (all the organisms living in a particular area).



Community: Biotic Factors

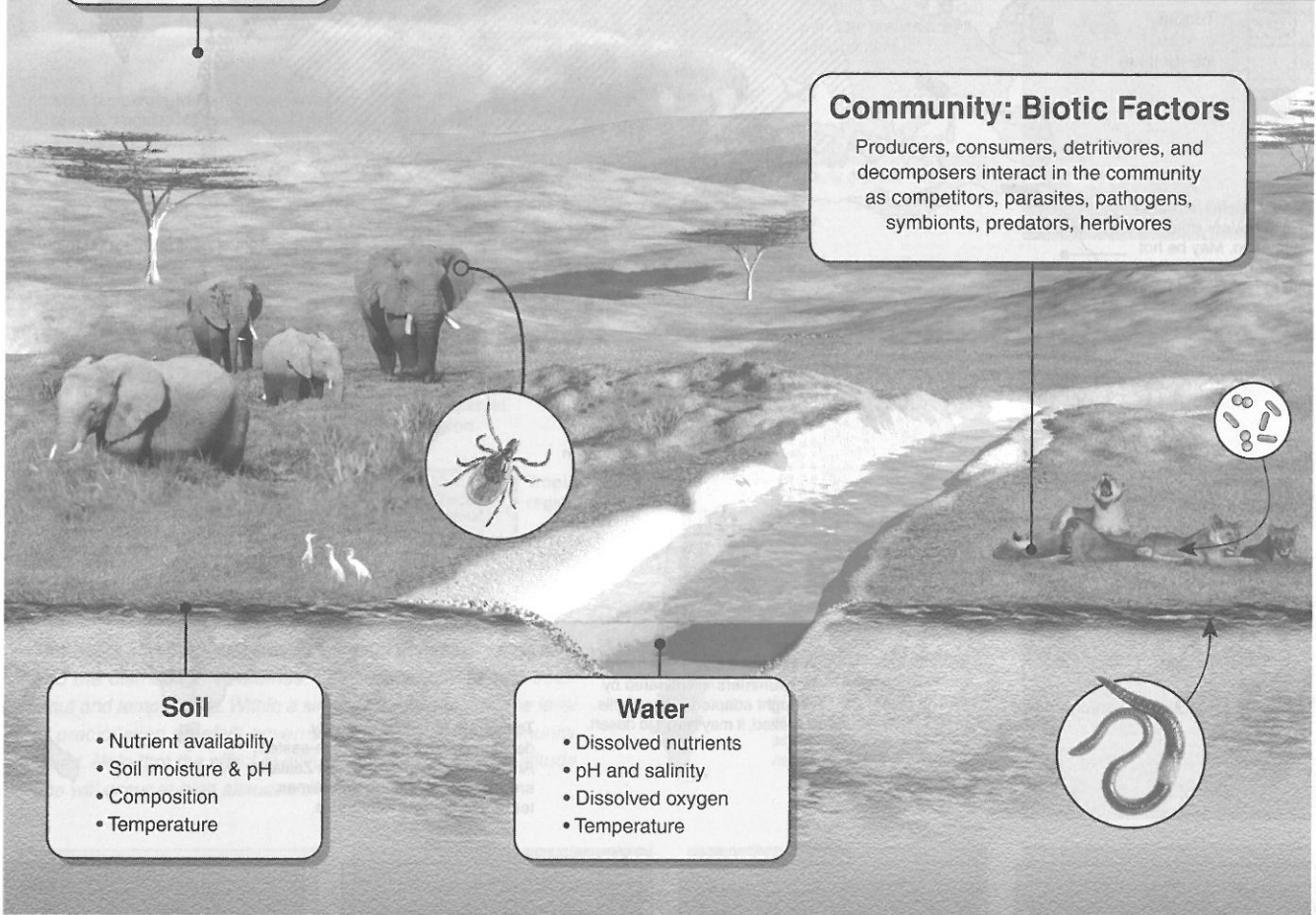
Producers, consumers, detritivores, and decomposers interact in the community as competitors, parasites, pathogens, symbionts, predators, herbivores

Soil

- Nutrient availability
- Soil moisture & pH
- Composition
- Temperature

Water

- Dissolved nutrients
- pH and salinity
- Dissolved oxygen
- Temperature



1. Distinguish clearly between a community and an ecosystem: _____

2. Distinguish between biotic and abiotic factors: _____

3. Use one or more of the following terms to describe each of the features of a rainforest listed below:
Terms: *population, community, ecosystem, physical factor.*

(a) All the green tree frogs present: _____ (c) All the organisms present: _____

(b) The entire forest: _____ (d) The humidity: _____

